

Claims:

1. A laser delivery system for ophthalmic surgery and the like comprising:

a handpiece having a handpiece body and a hollow probe of a size suitable for insertion into a human eye, said hollow probe extending distally from the handpiece body and including a metal tube forming the proximal portion of the probe;

a laser connector for connection to a laser source;

an optical fiber terminating at one end in the laser connector and terminating at another end in the handpiece for transmitting laser light from a laser source to an eye to be treated; and

a soft tip forming the distal end of said probe.

2. The laser delivery system of claim 1 wherein said soft tip comprises a tube made of a soft pliable material which is received at least partly in said metal tube and extends distally beyond said metal tube.

3. The laser delivery system of claim 2 wherein said soft pliable tube is frictionally held in said probe.

4. The laser delivery system of claim 3 wherein said soft pliable tube is received over a bushing, said bushing frictionally holding said soft pliable tube in said metal tube.

5. The laser delivery system of claim 4 wherein said bushing is received within said metal tube and extends distally out of said metal tube.

6. The laser delivery system of claim 5 wherein said soft pliable tube extends beyond the distal end of said bushing.

7. A handpiece for an ophthalmic laser delivery system including a handpiece body and a probe of a size suitable for insertion in a human eye extending from an end of said handpiece, said probe having a soft tip.

8. The handpiece of claim 7 wherein the proximal end of said probe is composed of a relatively hard material and said soft tip comprises a tube made of a soft pliable material which is received at least partly in said hard proximal portion of said probe and extends distally beyond said hard proximal portion of said probe.

9. The handpiece of claim 8 wherein said soft pliable tube is frictionally held in said hard proximal portion of said probe.

10. The handpiece of claim 9 wherein said soft pliable tube is received over a bushing, said bushing frictionally holding said soft pliable tube fixed in place with respect to said hard proximal portion of the probe.

11. The handpiece of claim 10 wherein said bushing is received within said hard proximal portion of said probe and extends distally out of said hard proximal portion.

12. The handpiece of claim 11 wherein said soft pliable tube extends beyond the distal end of said bushing.

13. The handpiece of claim 7 wherein the probe is curved.

8.  
14. The handpiece of claim 13 wherein the probe is curved proximally of the soft tip.

15. A method for securing a soft tip to a metal probe needle of an ophthalmic laser surgery handpiece comprising:

placing a bushing within a tube made of soft, pliable material having a generally constant annular width; and

inserting said tube and bushing into said probe needle to frictionally secure said tube within said probe needle, said tube extending distally past the distal end of the bushing to form a soft tip for the probe needle.

16. The method of claim 15 wherein said soft pliable tube has an outer diameter approximately equal to that of said probe needle, said insertion step including extruding said tube.

17. The method of claim 16 wherein said step of extruding said tube includes pushing said bushing into said probe needle after said tube has been partially inserted into said probe needle.

18. The method of claim 17 wherein said step of partially inserting said tube into said probe needle includes passing a length of tubing through said probe needle and breaking it, within said probe needle, at a predetermined point.

19. The method of claim 18 wherein said method of breaking said tubing at a predetermined point includes scoring said tubing at a desired location prior to passing said tubing through said probe needle.